US-PAT-NO: 6650872

DOCUMENT-IDENTIFIER: US 6650872 B1

TITLE: Method and device for estimating a carrier-to-interference ratio in a radio communication system

---------- KWIC ---------

Detailed Description Text - DETX (15):
According to an alternative method a correction factor, cf, is determined instead of a correction term. In this case the estimate of ((C+I)/I).sub.dB, i.e. (C+I*)-(I*), is **corrected by multiplying by the correction** factor, cf:

Claims Text - CLTX (8):
8. A method of controlling channel selection according to claim 5, wherein the step of correcting the estimated value of C/I according to a **correction function further includes multiplying** the estimated C/I by at least one correction factor.

Claims Text - CLTX (12):
12. A method of controlling channel selection according to claim 10, wherein the step of correcting the estimated C/I value further includes **multiplying the predetermined correction** value by the estimated C/I value.

Claims Text - CLTX (27):
26. A communication device according to claim 24, wherein the **correction function involves multiplying the predetermined correction** value by the estimated C/I value.

Claims Text - CLTX (38):
36. A method according to claim 33, wherein the step of correcting the estimated value of C/I according to a **correction function further includes multiplying** the estimated C/I by at least one correction factor.

Claims Text - CLTX (42):
40. A method according to claim 38, wherein the step of correcting the
estimated C/I value further includes **multiplying the predetermined correction**
value by the estimated C/I value.

Current US Cross Reference Classification - CCXR (3):
455/226.2

Current US Cross Reference Classification - CCXR (4):
455/450

Current US Cross Reference Classification - CCXR (5):
455/513

US-PAT-NO: 6304749

DOCUMENT-IDENTIFIER: US 6304749 B1

TITLE: Radio equipment and transmit power controlling method for the same

---------- KWIC ---------

Abstract Text - ABTX (1):

In the radio equipment in which necessary absolute precision of the transmit power can be assured while keeping the power variable amount precision in transmit power adjustment and the transmit power control of wide dynamic range and high linearity also is requested. The transmit power controlling method in the radio equipment, and the recording medium, when the transmit power is adjusted by detecting the error based on difference between the detected value which is obtained by detecting the transmit signal of the radio equipment and the detected value of the transmit signal when it is transmitted by the designated transmit power to be transmitted, then calculating the **correction value by multiplying** this error by the predetermined gain, then generating the control amount based on the correction value, and then re-setting the gain in transmit power amplification based on the control amount at a predetermined timing, the predetermined gain can be set such that an amount of change in the transmit power to be adjusted based on the control amount can be suppressed in the allowable range requested for an amount of change in the transmit power to be adjusted based on the reference value of the transmit power control, which is generated based on the designated transmit power.

Brief Summary Text - BSTX (16):

As described above, according to the radio equipment, the transmit power controlling method in the radio equipment, and the recording medium, when the transmit power is adjusted by detecting the error based on difference between the detected value which is obtained by detecting the transmit signal

of the radio equipment and the detected value of the transmit signal when it is transmitted by the designated transmit power to be transmitted, then calculating the **correction value by multiplying** this error by the predetermined gain, then generating the control amount based on the correction value, and then re-setting the gain in transmit power amplification based on the control amount at a predetermined timing, the predetermined gain can be set such that an amount of change in the transmit power to be adjusted based on the control amount can be suppressed in the allowable range requested for an amount of change in the transmit power to be adjusted based on the reference value of the transmit power control, which is generated based on the designated transmit power. Therefore, such advantages can be achieved that the transmit power precision compensating function for converging the transmit power into the predetermined range of the power control target value can be achieved in the radio equipment in which necessary absolute precision of the transmit power can be assured while keeping the power variable amount precision in transmit power adjustment and the transmit power control of wide dynamic range and high linearity also is requested.

Detailed Description Text - DETX (62):

As [KIK14]described above, according to the radio equipment, the transmit power controlling method in the radio equipment, and the recording medium, when the transmit power is adjusted by detecting the error based on difference between the detected value which is obtained by detecting the transmit signal of the radio equipment and the detected value of the transmit signal when it is transmitted by the designated transmit power to be transmitted, then calculating the **correction value by multiplying** this error by the predetermined gain, then generating the control amount based on the correction value, and then re-setting the gain in transmit power amplification based on the control amount at a predetermined timing, the predetermined gain can be set such that an amount of change in the transmit power to be adjusted based on the control

amount can be suppressed in the allowable range requested for an amount of change in the transmit power to be adjusted based on the reference value of the transmit power control, which is generated based on the designated transmit power. Therefore, such advantages can be achieved that the transmit power precision compensating function for converging the transmit power into the predetermined range of the power control target value can be achieved in the radio equipment in which necessary absolute precision of the transmit power can be assured while keeping the power variable amount precision in transmit power adjustment and the transmit power control of wide dynamic range and high linearity also is requested.

Current US Original Classification - CCOR (1):
455/126

Current US Cross Reference Classification - CCXR (3):
455/127.2

Current US Cross Reference Classification - CCXR (4):
455/234.1

Current US Cross Reference Classification - CCXR (5):
455/522

US-PAT-NO: 6208292

DOCUMENT-IDENTIFIER: US 6208292 B1

TITLE: Position location with low tolerance oscillator

---------- KWIC ---------

Detailed Description Text - DETX (14):

The effect of the code Doppler is to change the 1.023 Mhz chip rate, which effectively compresses or expands the width of the received C/A code chips. In one embodiment of the invention, the mobile unit **correct for code Doppler by multiplying** the frequency Doppler by the ratio 1.023/1575.42. The mobile unit can then correct for code Doppler over time by slewing (introducing delay into) the phase of the received IQ samples in 1/16 chip increments as necessary.

Current US Cross Reference Classification - CCXR (2):

455/456.2

Current US Cross Reference Classification - CCXR (3):

455/456.6

US-PAT-NO: 6055420

DOCUMENT-IDENTIFIER: US 6055420 A

TITLE: Antenna system having a high Q circuit

---------- KWIC ---------

Claims Text - CLTX (18):

7. The tunable antenna system of claim 6 wherein the **correction circuit** **comprises a multiplier for multiplying** the level signal with the dither signal to produce a product signal,

Current US Original Classification - CCOR (1):

455/193.1

Current US Cross Reference Classification - CCXR (1):

455/290

US-PAT-NO: 6028894

DOCUMENT-IDENTIFIER: US 6028894 A

TITLE: SIR or SNR measurement apparatus

---------- KWIC ---------

Claims Text - CLTX (12):
means for obtaining a correction coefficient by calculating SIR/(SIR+1), **multiplying SIR by this correction** coefficient and outputting the product as true SIR, where the S/N ratio or S/I ratio is expressed as SIR.

Claims Text - CLTX (26):
means for obtaining a correction coefficient by calculating SIR/(SIR+1), **multiplying SIR by this correction** coefficient and outputting the product as true SIR, where the S/N ratio or S/I ratio is expressed as SIR.

Current US Cross Reference Classification - CCXR (3):
455/226.3

Current US Cross Reference Classification - CCXR (4):
455/67.13

US-PAT-NO: 6070086

DOCUMENT-IDENTIFIER: US 6070086 A

TITLE: Closed loop power transmitter power control unit for a CDMA cellular system

---------- KWIC ---------

Detailed Description Text - DETX (95):

The EbIo estimator II, numeral 104, measures using only samples corresponding to the pilot symbols. Both methods for EbIo measurement could be applied in EbIo estimator II: EbIo measurement using accumulation and averaging of pilot samples, or EbIo measurement using re-modulated signals. The performance of these two methods for interpolation as previously described are almost the same, so it is better to use the second method based on re-modulation. For the second method, the intermediate results of calculation for EbIo estimator I, can be used to speed-up the computation for EbIo estimator II. By sharing the computation between the estimators a reduction in the computation can be accomplished. The saving in computation for the first method is possible in the case of joint processing for carrier estimation and EbIo measurement. The EbIo estimator II averages/integrates estimated interference power over a few slots in order to increase the reliability of the Io estimation. By this averaging, the deviation of measured interference power is reduced. The long term average error in Io measurement is dependent on the number of samples used for measurement and it is not the same for EbIo estimator I and II, as it is described previously. The simple **correction is done by multiplying** the measured interference power by EbIo estimator II with a constant factor. With this simple correction, the two estimators 103, 104 are equalized, and the received EbIo is controlled to be the same for both EbIo estimators 103, 104.

Current US Cross Reference Classification - CCXR (1):

370/342

US-PAT-NO: 5959965

DOCUMENT-IDENTIFIER: US 5959965 A

TITLE: Digital broadcasting receiver

---------- KWIC ---------

Brief Summary Text - BSTX (11):

According to a second aspect of the present invention, a digital broadcasting receiver for receiving digital broadcasting which uses orthogonal frequency division multiplexing transmission system in which each of a plurality of carriers is phase-modulated comprises: symbol selecting means for partitioning a digital signal represented in the time domain obtained by reception into symbols; region converting processing means for obtaining demodulation data represented in the frequency domain by using the symbols partitioned by the symbol selecting means; phase **correcting means for performing processing of multiplying,** for each element, a vector of demodulation data of phase reference symbols outputted from the region converting processing means by a vector of defined conjugate complex numbers of phase reference symbols held in advance in the receiver; inverse FFT processing means for applying inverse FFT processing to an output of the phase correcting means; timing jitter detecting means for detecting a peak of a result of a processing of the inverse FFT processing means and detecting a shift in timing at which the symbol selecting means partitions symbols according to a position of the peak; timing control means for controlling timing at which the symbol selecting means partitions symbols according to a shift of timing; and product-sum operation means for multiplying elements separated by the same numbers forward and backward from an element at a particular carrier frequency as a center in an output vector of the phase correcting means and adding the results; wherein the phase correcting means provides, to the inverse FFT processing means, an output based on a correspondence between the vector of demodulation data of phase reference symbols and the vector of defined conjugate complex numbers of phase reference symbols which provides a maximum absolute value in solutions provided as a result of processings by the

phase
correcting means and the product-sum operation means for a correspondence in a
particular relation and correspondences in which elements of the vectors of
demodulation data of phase reference symbols outputted and of defined conjugate
complex numbers of phase reference symbols are in relations mutually shifted
from the particular relation by a plurality of elements.

Brief Summary Text - BSTX (12):

According to a third aspect of the present invention, a digital broadcasting receiver for receiving digital broadcasting which uses orthogonal frequency division multiplexing transmission system in which each of a plurality of carriers is phase-modulated comprises: FFT processing means for converting an orthogonal frequency division multiplexing signal expressed in the time domain, which is a digital signal obtained by reception, into demodulation data expressed in the frequency domain; phase **correcting means for multiplying,** for each element, a vector of demodulation data of phase reference symbols outputted from the FFT processing means by a vector of defined conjugate complex numbers of phase reference symbols; product-sum operation means for multiplying elements separated by the same numbers forward and backward from an element at a particular carrier frequency as a center in an output vector of the phase correcting means and adding results of multiplicationof the product-sum operation means; carrier shift means for shifting correspondence between elements of the vector of demodulation data outputted from the FFT processing means and carrier frequencies; and control means for controlling the carrier shift means, wherein processings of the phase correcting means and the product-sum operation means are performed for a case in which a correspondence between the vector of demodulation data of phase reference symbols outputted from the FFT processing means and the vector of defined conjugate complex numbers of phase reference symbols is in a particular relation and cases in which elements of the vectors of demodulation data of phase reference symbols outputted and of defined conjugate complex numbers of phase reference symbols are in relations mutually shifted from the particular relation by a

plurality
of elements, a correspondènce which provides a maximum absolute value is
obtained in results of the processings, and the control means controls the
carrier shift means on the basis of a difference of an obtained correspondence
from the particular relation and the carrier frequency for the element used as
the center by the product-sum operation means.

Brief Summary Text - BSTX (17):

Preferably, according to an eighth aspect of the present invention, the digital broadcasting receiver of the first aspect comprises integrating means for multiplying elements separated by the same numbers forward and backward from an element at a particular carrier frequency as a center in the vector of demodulation data of phase reference symbols outputted from the FFT processing means, phase **correcting operation means for multiplying,** for each element, a vector resulting from the multiplication by the integrating means by each of vectors obtained by multiplying elements separated by the same numbers forward and backward from the element at the particular carrier frequency and elements separated by a plurality of elements from that element at the particular carrier frequency in the vector of defined conjugate complex numbers of phase reference symbols, and adding means for adding results of each of vectors outputted from the phase correcting operation means.

Claims Text - CLTX (6):

phase **correcting means for multiplying,** for each element, said demodulation data vector of phase reference symbols with said defined complex conjugate vector of phase reference symbols, and

Claims Text - CLTX (10):

phase **correcting means for multiplying,** for each element, a vector result of said integrating means with each of vectors obtained by multiplying elements equally separated from said center element at said particular carrier frequency and elements separated by a plurality of elements from said element at said

particular carrier frequency in said defined complex conjugate vector of phase
reference symbols, and

Claims Text - CLTX (28):
phase **correcting means for multiplying,** for each element, a demodulation
data vector of phase reference symbols by a defined complex conjugate vector of
phase reference symbols;

Claims Text - CLTX (47):
phase **correcting means for multiplying,** for each element, a demodulation
data vector of phase reference symbols output by said FFT processing means by a
defined complex conjugate vector of phase reference symbols;

Current US Original Classification - CCOR (1):
370/203

Current US Cross Reference Classification - CCXR (1):
370/210

Current US Cross Reference Classification - CCXR (2):
370/320

US-PAT-NO: 6434131

DOCUMENT-IDENTIFIER: US 6434131 B1

TITLE: CDMA method with increased capacity

---------- KWIC ---------

Abstract Text - ABTX (1):
Using CDMA encoding and spectrum spreading with a factor N, more than N messages are transmitted although N is a theoretical limit for this type of encoding. Encoding uses orthogonal sequences for a first group of N messages and random or pseudo-random sequences PN for a second group of M-N additional messages. On reception, the N messages of the first group are decoded and detected. Their interference is subtracted from the second group of M-N messages before detecting the M-N messages. In a second iteration, the interference of the M-N messages using PN sequences is **estimated and subtracted** from the N first messages before a second detection on the first group of N messages. Detection is then repeated for the second group of M-N messages after subtracting the interference of the first group of N messages and the mutual interference of the M-N messages.

Current US Original Classification - CCOR (1):
370/335

Current US Cross Reference Classification - CCXR (1):
370/208

Current US Cross Reference Classification - CCXR (2):
370/342

Current US Cross Reference Classification - CCXR (3):
370/411

US-PAT-NO: 4995104

DOCUMENT-IDENTIFIER: US 4995104 A

TITLE: Interference cancelling circuit and method

---------- KWIC ---------

Abstract Text - ABTX (1):

A receiver includes an interference canceller circuit which receives a corrupted signal and makes an estimate of the desired signal. Subsequently, an estimate of the interference signal is determined by subtracting the estimated desired signal from a delayed version of the received signal. The receiver forms a final **estimate of the desired signal by subtracting** the estimated interference from a second delayed version of the received signal.

Current US Original Classification - CCOR (1):

370/201

Current US Cross Reference Classification - CCXR (2):

370/286